

Figure 1

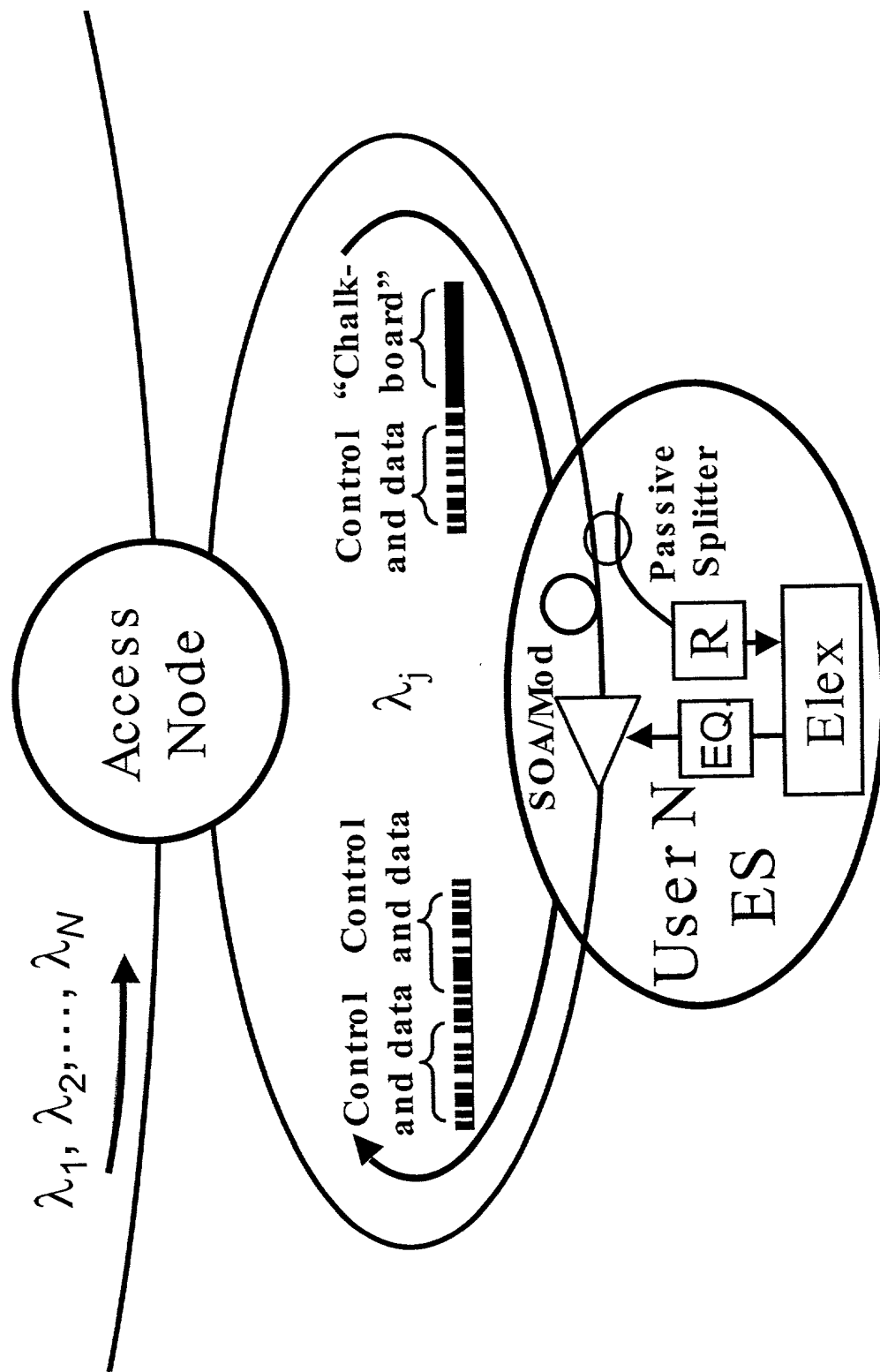


Figure 2

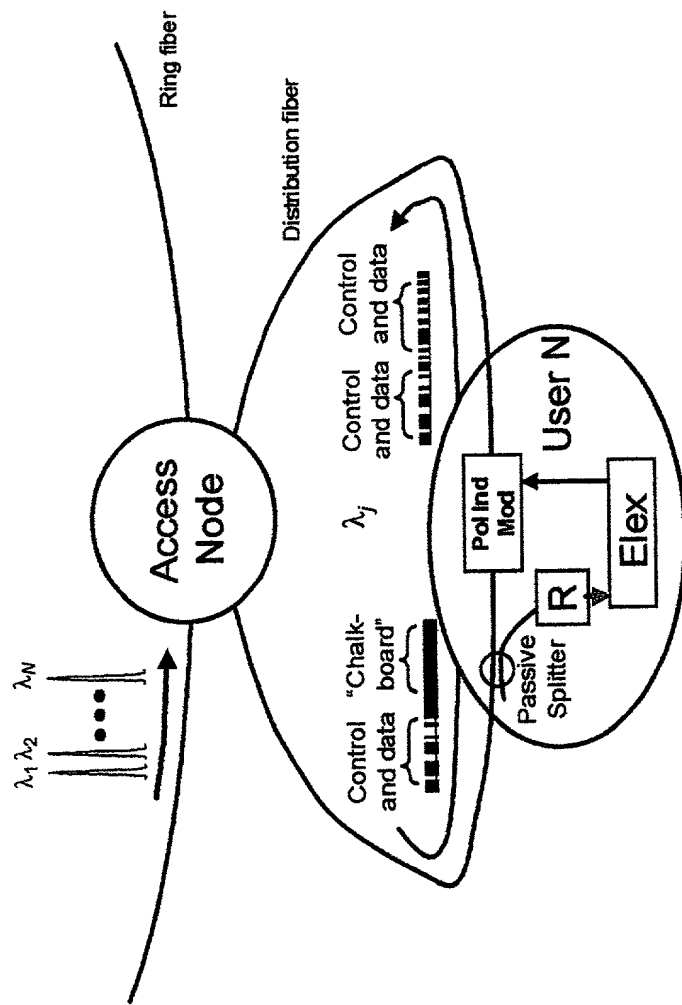


Fig 2b

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 $\lambda_{100}$

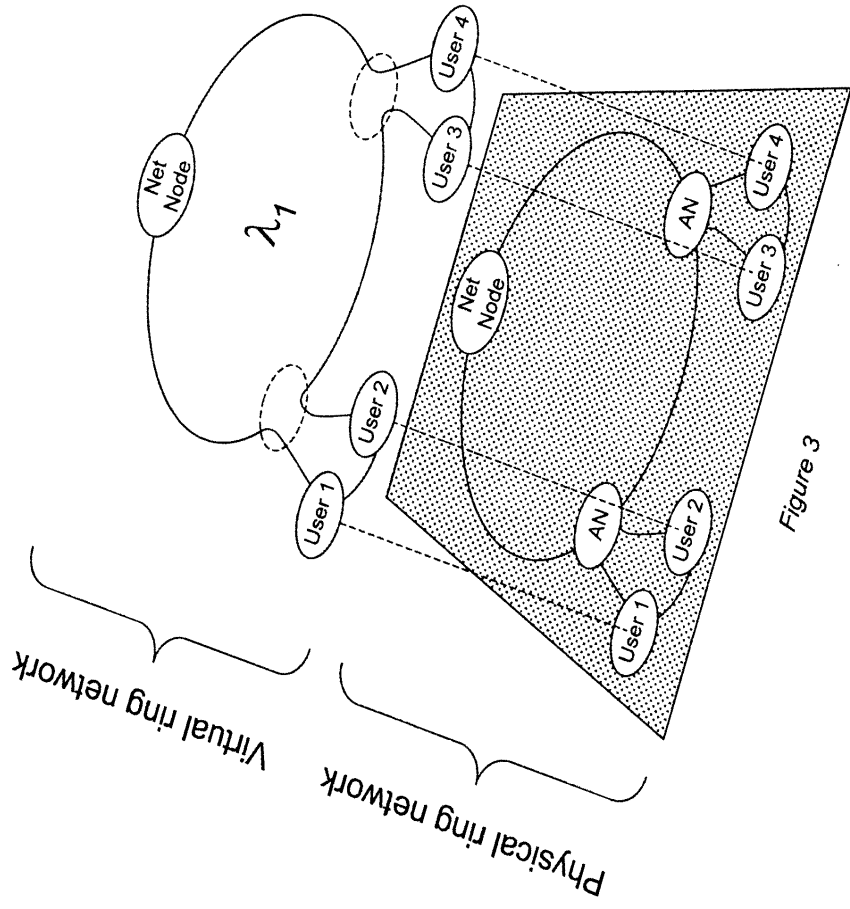


Figure 3

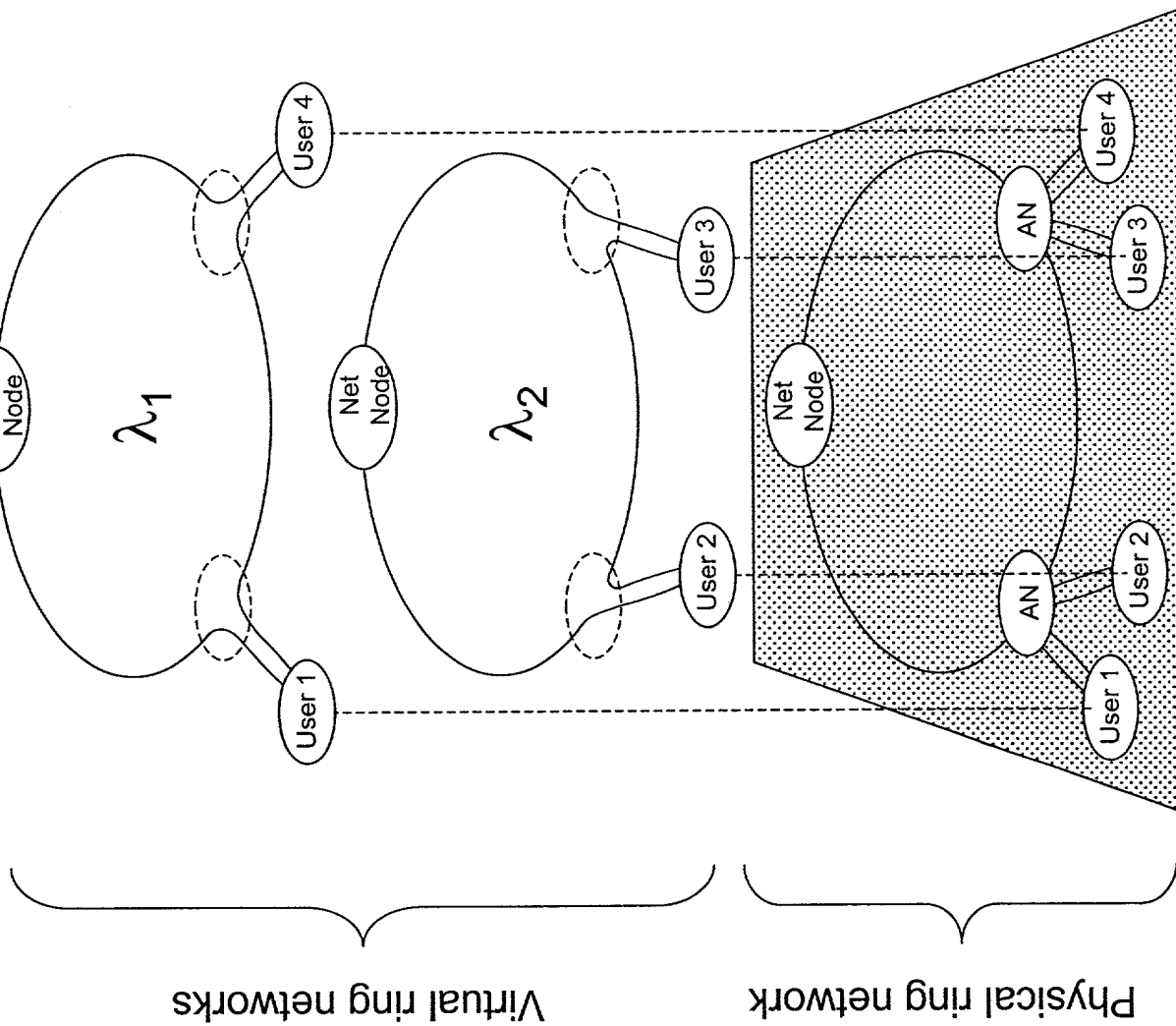


Figure 4

Virtual ring networks

Physical ring network

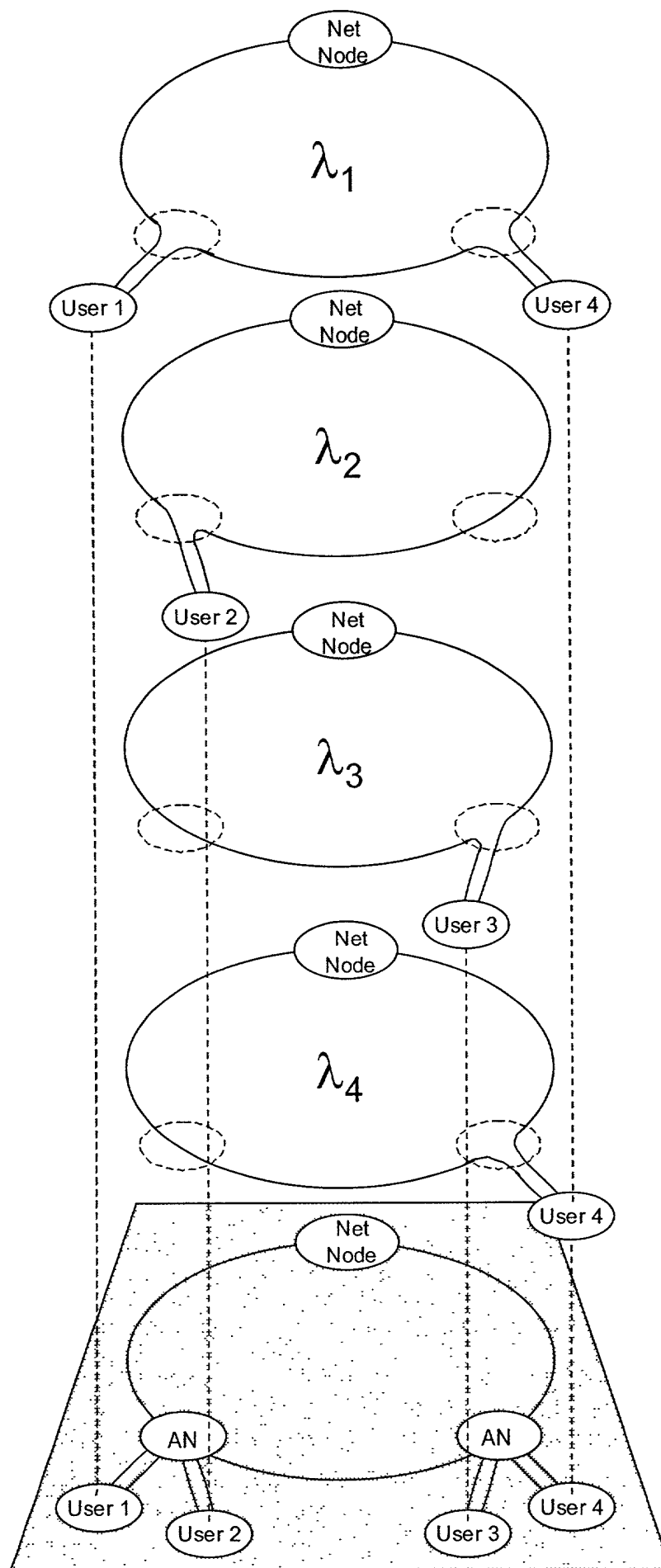


Figure 5

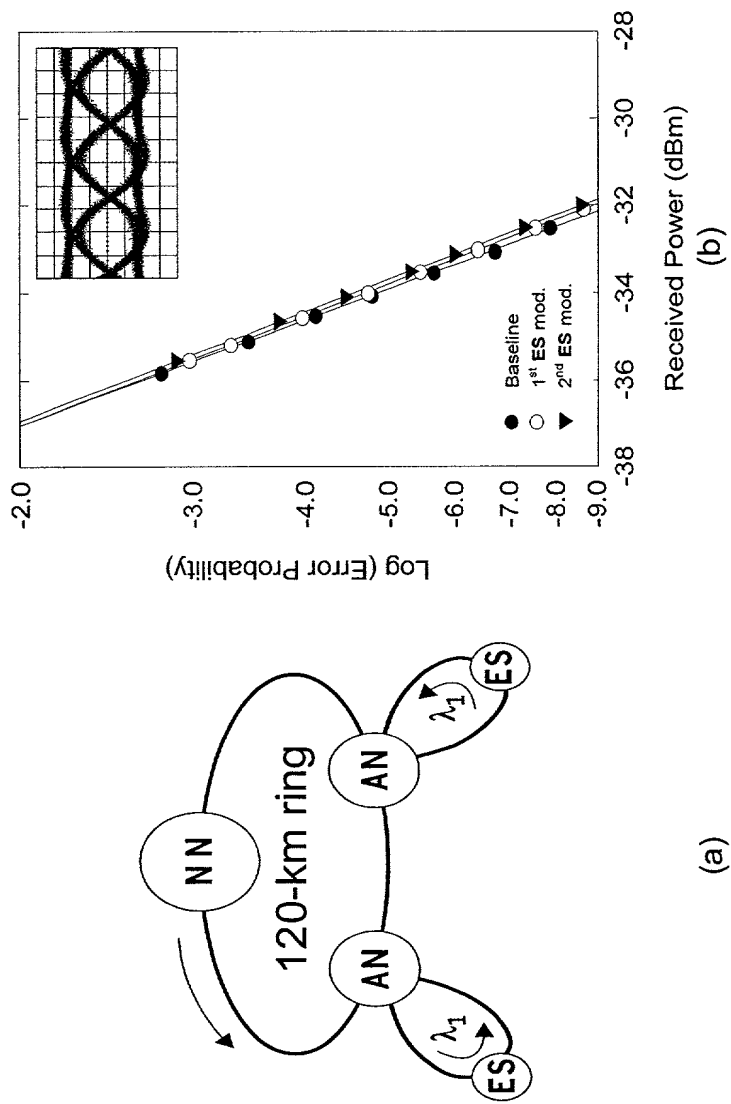


Figure 6

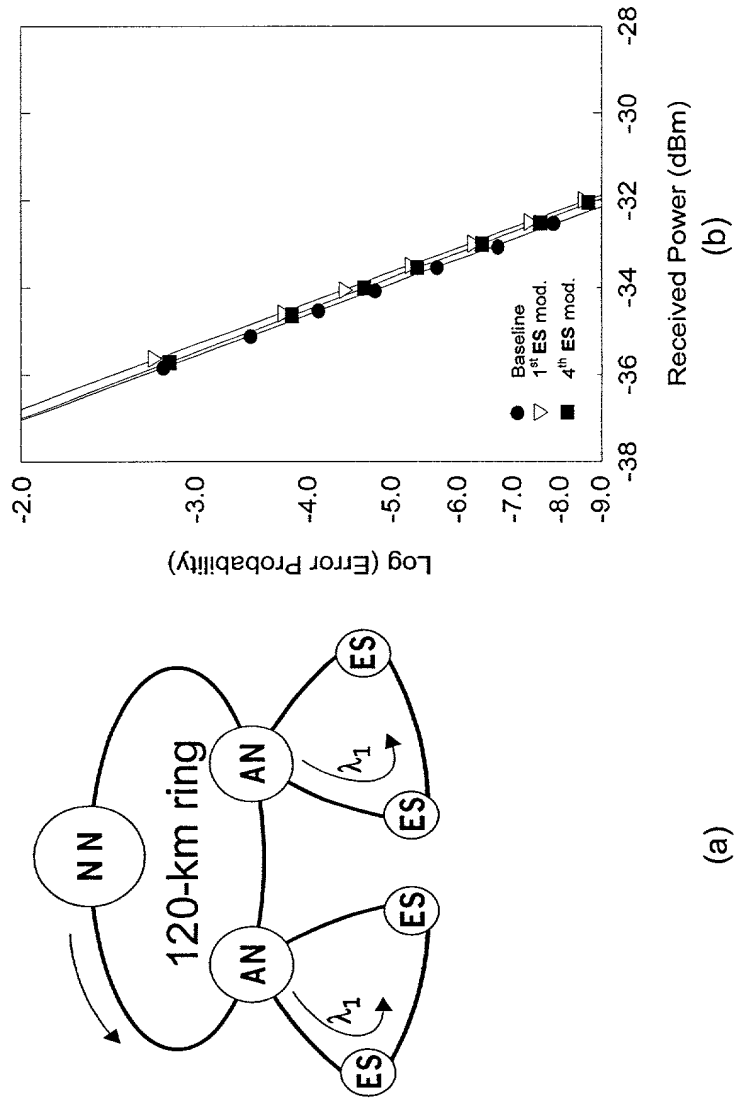
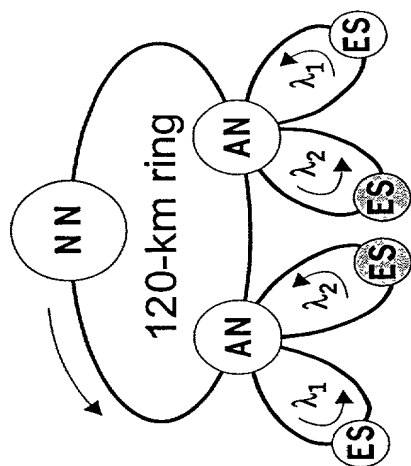


Figure 7





(a)

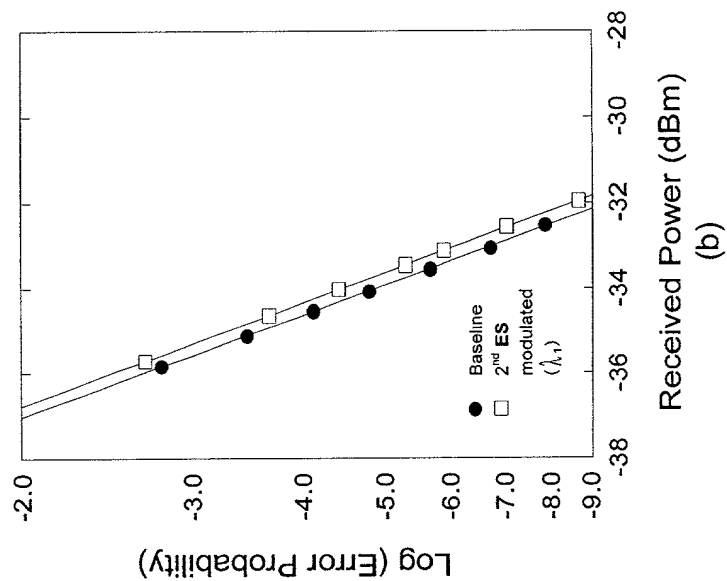


Figure 8



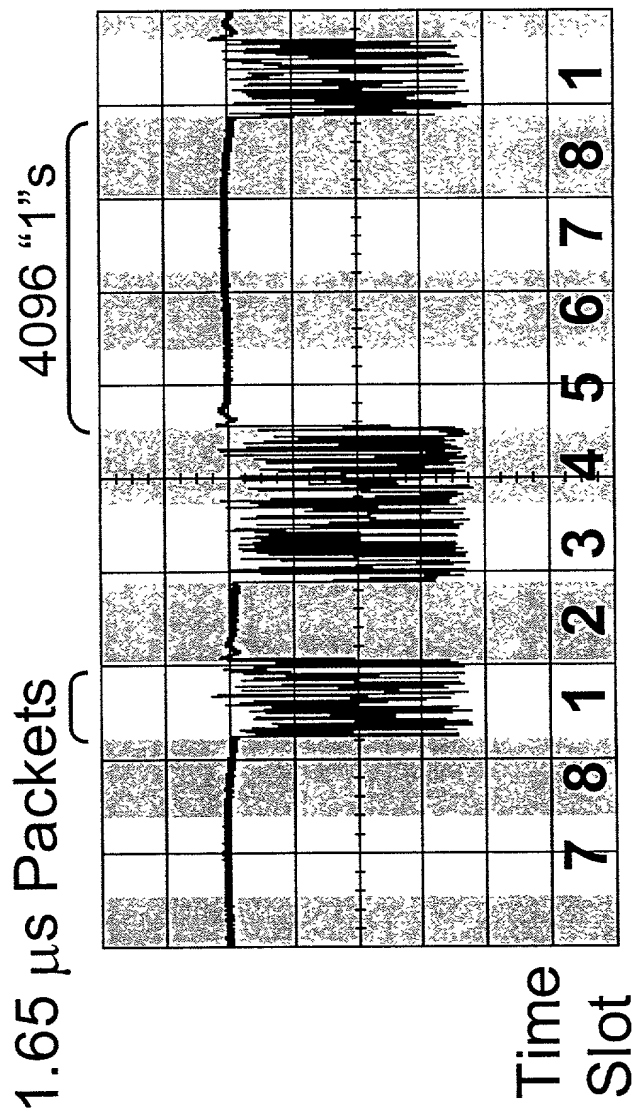


Figure 10

1021720" 44520550

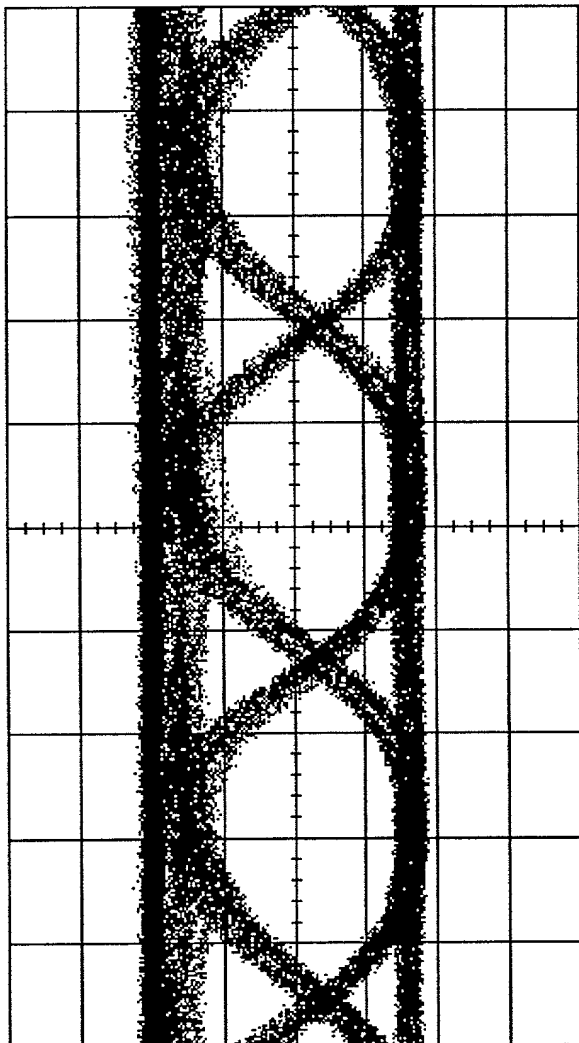


Figure 11

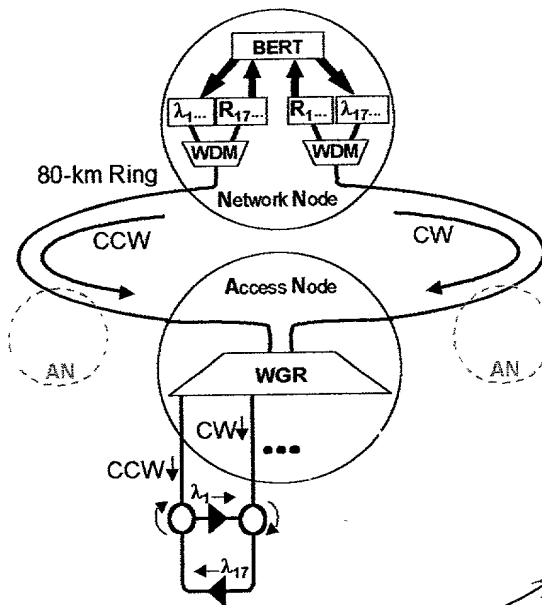


Figure 12a

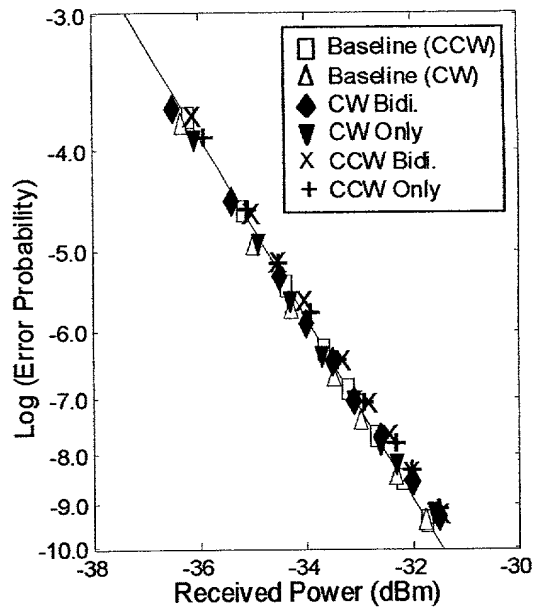


Figure 12b

### Bi-directional Single-Fiber Ring

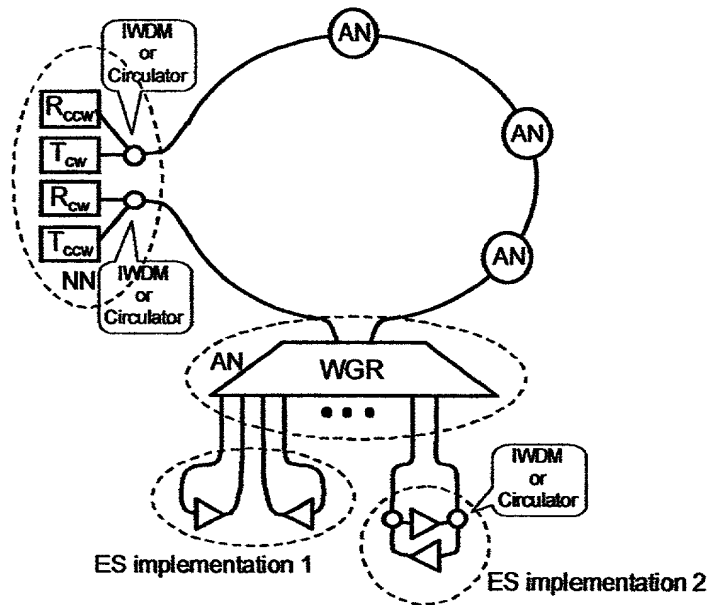


Fig 12b